Appl. No. 10/054,131
Supplemental Amendment transmitted on January 5, 2004

Amendments to the Specification

Please replace paragraph 0022, 0023, 0025, 0027, and 0029 on pages 5-8, with the following paragraphs:

[0022] A means for regulating the temperature of the platens in the press 2 is shown in Figure 1 as freshly-heated heating fluid 33 passes under pressure from a heating means 12 through a first passage 20 and through a blend valve 16 where it is mixed with recirculated heating fluid 34 to form press heating fluid 31 (the operation of the blend valve is described in more detail below), the press heating fluid 31 then flows into a second passage 24 and then into an inlet 3 into the press 2. The aforementioned passages and valves constitute a means for circulating a heating fluid through the platens 10 in the press 2. The temperature of the oil in the inlet may be measured by an inlet temperature monitor (not shown). Once inside the press 2 the fluid is distributed and carried by various channels and conduits located in each of the platens 10 in order to heat the platens 10 ~~(not individually shown)~~. The wood-additive mats 11 are then loaded onto each of the platens 10 and compressed (in a multi-platen press) or a mat of the wood-additive mixtures is forced through two heated platens 10 to form a continuous sheet of material (in a continuous press). The heat supplied to the platens 10 by the heating fluid is dissipated into the batches of wood-additives 11 being formed into pressed board or other wood composite products, thus the press platens 10 functions essentially as heat exchangers transferring heat from the heating fluid into the batches of the wood-additive mixture. This causes a decrease in the temperature of the press platens 10 and heating fluid.

[0023] After traveling through the press platens 10, the heating fluid exits the platens 10 through the outlet 4 and the temperature of the heating fluid is monitored by a means for detecting the temperature of the heating fluid as it exits the platens 10, this means for detecting the temperature may be a temperature monitor, such as an outlet temperature monitor 6. (The temperature measured in the outlet 4 should generally be less than the temperature measured in the inlet because the heating fluid in the outlet has exchanged some of its heat with the press platens.) Because the recirculating heating fluid 34 has contacted and exchanged heat with the press platens 10, it has established a metastable thermal equilibrium with the press platens 10, and then flows directly from the press platens 10 into the outlet, where its temperature is measured by the outlet

temperature monitor 6, and is thus a very accurate measure of the actual temperature of the press platens 10. The location of the outlet temperature monitor 6 downstream of the outlet 4 has not previously been discovered in the prior art, which relies on temperature sensors measuring the temperature of the heating fluid flowing into a press.

[0025] The present invention also includes a means for responding to the detected temperature for heating the fluid supplied to the platens 10. In operation, the blend valve 16 controls the temperature of the press heating fluid 31 that flows through the second passage 24 and into the press platens 10 inside the press 2. The press heating fluid 31 passing through the second passage 24 is a blend of the recirculating heating fluid 34 entering the blend valve 16 from the bypass passage 22 and the freshly heated fluid 33 entering the blend valve 16 from the first passage 20. The blend valve 16 regulates the relative proportions of the freshly heated fluid 33 and the recirculating fluid 34 that are blended in the blend valve to form the press heating fluid 31. The recirculating heating fluid 34 is generally colder than the freshly heated fluid 33, because it has passed through the press 2, and thus dissipated some of its heat into the press platens.

[0027] Accordingly, by regulating the temperature of the press heating fluid 31 in the second passage 24, the temperature of the press platens 10 may be controlled during the operation of the press 2. Figure 2 is a chart of the temperature and pressure at which the press is operated through the completion of one normal press cycle. Before the beginning of the compression cycle at relative time = 1 second, the press platens are brought to an initial temperature, designated as by alpha in Figure 2. The press cycle then begins at relative time =1 second, as compression of the wood mat in the press platens begins, and continues until relative time = 35 seconds, when compression returns to zero as the press platens separate. At time "a" (shown for illustration purposes in Figure 2 at approximately relative time = 8 seconds) a few seconds after the compression cycle begins, but before the maximum pressure is reached, the platens are heated to temperature beta (the mechanisms for heating the press platens is described in detail above).

[0029] As is clear from the foregoing, the temperature of the various heating fluids, and ultimately the press 2 and press platens 10 is regulated by the action of the blend valve 16 and the recirculating valve 8, which control the proportions at which the recirculated heating fluid 34 and the freshly heated heating fluid 33 are blended to form the press

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heating fluid 31. Various means are available for adjusting the blending valve 16 and controlling the recirculating valve 8. During operation of the press, a signal generated by the outlet temperature sensor 6 and indicative of the recirculating oil temperature is transmitted to an input/output device, such as a computer or other display terminal. A human operator watches the signal from the outlet temperature sensor and controls the action of the valves 8, 16, so that the press platens 10 are maintained at the desired temperature. The input/output device (not shown) may also be programmed to record and store the signal data generated by the outlet temperature sensor.